



Program of Research on the Economics of Invasive Species Management

Fiscal 2005

Competitive Award Program: Description and Application Process



Checklist

All proposals submitted under the Program of Research on the Economics of Invasive Species Management (PREISM) must contain the applicable elements described in this brochure. The following checklist has been prepared to assist in ensuring that the proposal is complete and in the proper order prior to mailing:

- ✓ Application for Funding Cover Page
 - Is all required information accurate and complete?
 - Has the Principal Investigator and the authorized organizational representative signed the Cover Page?
 - Does one copy contain pen-and-ink signatures?
 - Have you included a telephone number, fax number, and/or e-mail address where a message may be left for you?
 - ✓ Table of Contents
 - Are page numbers included for each item?
 - ✓ Project Summary
 - Has the Project Summary been included?
 - Do the name and institution of the Principal Investigator and co-investigators appear on the page, or on the following page?
 - Does it include research objectives?
 - Is it no more than 250 words?
 - ✓ Project Description
 - Is the project fully described?
 - Does this section adhere to the format and page limitations, as specified?
 - Does this section begin as page 1, as specified?
 - Does it contain a tentative schedule or workplan of major steps of study?
 - ✓ Citations to Project Description
 - Are all references cited?
 - Are all citations referenced?
 - Do all citations contain a title and are they in accepted journal format?
 - ✓ Documentation from Collaborator(s), or Host Institution (where appropriate)
 - ✓ Vitae and Publications List(s)
 - Are vitae included for the Principal Investigator and co-investigators, senior associates, and other key project personnel (including subcontractors—see instructions)?
 - Are the vitae current and pertinent?
 - Are the publications lists complete and limited to the last 5 years?
 - ✓ Budget (form ARS-455)
 - Are budget items complete?
 - Is the summary budget included?
 - Is the funding level total in line N within the stated limit of \$250,000 for the 3-year duration of the project proposal?
 - Is the budget duration within the stated limit of 3 years?
 - ✓ Indirect Cost Rate Schedule
 - For reimbursement of indirect costs, is a copy included of the applicant's indirect cost rate schedule that reports the applicant's federally negotiated audited rate?
 - ✓ General
 - Does the proposal conform to all format and page limitations and deadline requirements?
 - Are there an original and 12 copies?
 - Are all copies complete?
-

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Overview

Applications are invited for competitive grant and cooperative agreement awards from the United States Department of Agriculture (USDA) for fiscal 2005. This document provides background on the research areas of interest to the Program of Research on the Economics of Invasive Species Management (PREISM), application procedures, deadlines for submission, and guidance for the application process.

USDA's Economic Research Service (ERS) anticipates awarding approximately \$1 million in fiscal 2005 for competitive grants and cooperative agreements. ERS will accept proposals under this program for funding levels, inclusive of indirect cost when applicable, between \$50,000 and \$250,000 (for the duration of the grant and/or the cooperative agreement, not to exceed 3 years).

Authority

The authority for this program is contained in the Omnibus Budget Appropriations Act, Fiscal 2004 (P.L. 108-7). Proposals may be submitted by any State agricultural experiment station, college, university, other research institution or organization, Federal, State, or county agencies, private organization, corporation, or individual.

Applicable Federal Statutes, Regulations, and Guidelines

Applicable Federal statutes, regulations, and guidelines include the following:

(a) guidelines to be followed when submitting grant proposals and cooperative agreements and rules governing the evaluation of proposals; (b) the USDA Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations, 7 CFR 3019; (c) the USDA Uniform Federal Assistance Regulations, 7 CFR Part 3015; (d) the USDA Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments, 7 CFR Part 3016; and (e) Cooperative Research Agreement 7 USC 3318b.

Priority Research Areas

ERS is accepting economic research proposals in three broad research areas of importance to USDA's invasive species policies and programs. The ERS program focuses on national decision making concerning invasive species of agricultural significance or affecting or affected by USDA programs. The term "invasive species" is applied broadly to include any vertebrate, invertebrate, weed, fungi, plant disease, livestock disease, or other organism that:

- Is non-native, alien, or exotic to the ecosystem where it exists or potentially could be introduced-including agricultural, range, and forest ecosystems; and
- When introduced, causes, or is likely to cause, economic or environmental harm.

Proposals should focus on applied economic research, and/or decision support system development that has direct implications for USDA policies and programs for protection from, control/management of, regulation concerning, or trade policy relating to invasive species. Anticipated, competitive funding in fiscal 2005 will be approximately \$1 million.

The three Priority Research Areas highlight economic research priorities identified by ERS, in consultation with USDA's Animal and Plant Health Inspection Service (APHIS), USDA's Forest Service, and other USDA agencies and offices with programs related to invasive species. ERS is especially interested in proposals for applied or empirical research with expected outcomes that include immediately useful, analytically based principles or guidelines for invasive species policy/program decision making, decision support tools, and economic information, database, or modeling systems that support the use of such principles, guidelines, or tools. Applicants may address multiple issues, but must specify one of the three priority research areas below:

I. Institutions and Incentives for Efficient Invasive Species Prevention and Management

- A. Effects of Institutions for Invasive Species Prevention and Management
- B. Effects of Strategic Behavior on Invasive Species Prevention and Management
- C. Efficiency and Equity Effects of Current and Alternative Funding Mechanisms
- D. The Economics of Contraband

II. Practical Decision Analysis for Invasive Species Management

- A. Application of Economic Concepts or Decision-Support Models to Invasive Species Decision Problems
- B. Evaluation Methods for Invasive Species Strategies

III. International Dimensions of Invasive Species Management

- A. Economic Analysis of International Public Goods Related to Invasive Species Management
- B. Economic Evaluation of Public Enforcement of Trade-Related Invasive Species Regulation
- C. Trade-Related Invasive Species Risks, Regulations, and Responses: Firm Level Analysis

Important Guidance for All Proposals

All proposals should have strong economic components and economic expertise and be applied to invasive species problems or decisions. Proposals should address the economic aspects of space, dynamics, risk, uncertainty, irreversible effects, or institutional frameworks that pertain to the decision or problem of concern. If necessary, proposals should involve scientific or technical expertise and program collaboration (for example, Animal and Plant Health Inspection Service, Forest Service, Department of Homeland Security, or a State agency). We encourage such collaboration so that researchers can characterize relevant problems and decisions better and to

provide important knowledge, data, and information to conduct the project. Proposals should identify data sources and potential problems in obtaining data.

The highest priority problems concern USDA decision making and issues concerning invasive species of agricultural significance. Included are exotic crop pests and foreign livestock, poultry, and zoonotic diseases, but also exotic pests or foreign diseases affecting public lands, ecosystems, or urban systems that are addressed by USDA programs. The more a proposal addresses this guidance and specific topics under the Priority Research Areas, the higher the likelihood of success.

I. Institutions and Incentives for Efficient Invasive Species Prevention and Management

Actions taken by the public sector to prevent or manage invasive species affect and/or rely upon the cooperation of commodity industries, traders, natural resource and conservation interest groups, and private individuals whose property contributes to the dispersal or establishment of an invasive species. Institutional arrangements, or the framework of public and private organizations and rules for decision making, such as treaties, laws, government programs, property rights, private or government-assisted organizations, or international cooperation/coordination, create economic incentives and influence the entry, spread, and damage of invasive species, as well as their exclusion and management.

Exploring in an objective and systematic manner who the stakeholders and other actors are in invasive species exclusion and management, how they relate to one another and the public sector, what motivates each to act (or fail to act) in particular ways, and the incentives created by alternative programs, organizations, or rules could be enormously helpful in crafting long-term strategies for more efficient prevention and management of invasive species. In addition to investigations of the political economy and welfare implications of invasive species programs and decision making, ERS welcomes research addressing the following issues.

A. Effects of Institutions for Invasive Species Prevention and Management

Public programs and private actions interact to influence the entry, spread, and damages of invasive species and the effectiveness of prevention and management. Citrus canker, for example, infects citrus trees on private residences in the same manner that it infects commercial citrus groves. The rights of private property owners can, therefore, conflict with government aims for pest eradication. Conversely, the personal preferences of individuals might make them volunteer allies in government pest detection programs, if those individuals perceive a personal advantage in their contribution to a public good. How well do alternative institutional arrangements and incentives schemes perform in assuring that private behavior and government means and ends are consistent in achieving collective action?

To address such issues, ERS encourages studies that examine and/or compare the effects of current and alternative frameworks for decision-making from an institutional economics perspective (structure, conduct, and performance) on incentives for biosecurity, including invasive species prevention and management. Examples of alternative arrangements include, but are not limited to, changes in prevention, management, or other government programs; changes in Federal, State, and private roles in prevention or management programs; the use of insurance or bonds; private or government-assisted pest management organizations; or reliance on property rights and private response.

B. Effects of Strategic Behavior on Invasive Species Prevention and Management

The pursuit of economic interests, depending upon the framework of rules and economic incentives, can enhance or diminish the effectiveness of efforts to prevent or manage invasive species. Close collaboration between industries affected by a detected invasive species and the public agency responsible for containing or eliminating the species can be a requirement for effective management of a potential outbreak. But public and private objectives are not always perfectly aligned. Moral hazard can reduce the effectiveness of such efforts if, for instance, payments to compensate destruction of assets or products interfere with efforts to manage pest introductions through the marketplace. Another example arises when one segment of a national industry (say that producing for the domestic market only) has incentives to undermine efforts to protect the entire industry (including trade-oriented producers) from a common invasive pest that harms producers for domestic and export markets differently. Under what economic conditions is public-private coordinated action toward common goals most likely? If economic conditions create incentives for the private sector to act in ways that counter public efforts, such as public and private cooperative management programs or regulatory programs, what might be done by public agents to at least recognize, if not counteract, such incentives?

To address such issues, ERS encourages studies to examine strategic behavior that could: a) reduce welfare through mechanisms such as increased pest introduction, spread, or damage, or b) improve welfare through cooperation or other incentives to reduce pest spread or damage. Potential approaches to examine such behavior could include, but are not limited to, models of symmetric information (Nash equilibria and Bayesian games) or asymmetric information (moral hazard and adverse selection).

C. Efficiency and Equity Effects of Current and Alternative Funding Mechanisms

USDA currently funds plant pest and foreign animal disease exclusion and management programs through appropriated funding, and, in special circumstances, emergency funding from the Commodity Credit Corporation. In some cases, USDA compensates adverse effects of pest or disease management programs. These funding and compensation mechanisms may influence the effectiveness of invasive species exclusion and management, the distribution of costs and benefits, and incentives for biosecurity. ERS encourages studies to examine the efficiency and equity effects of current funding mechanisms and compare them to alternative arrangements such as insurance, bonding, or private or government-assisted pest management organizations.

D. The Economics of Contraband

Increasingly, the distribution and impacts of invasive pests are affected by the actions of individuals outside of commercial sectors. For example, a recent outbreak of Exotic Newcastle Disease (a serious avian disease) was traced to surreptitious importation of birds from Mexico for the purpose of cockfighting competition. Contraband is a source of potential invasive species problems, made more serious and less easy to track as individuals are able to purchase banned materials over the internet. How can insights from the economics of criminal behavior and penalties inform our understanding of invasive species threats arising from commerce in contraband? Can this area of economic study provide practical guidance on enforcement effort or for adjusting positive and negative incentives to reduce such invasive species threats?

II. Practical Decision Analysis for Invasive Species Management

Economists possess a wide array of tools and techniques to guide management and resource allocation decisions and to assemble, process, and analyze data. ERS encourages research that adapts and applies these tools and techniques to aid, guide, and inform USDA decisions and actions related to invasive species prioritization, prevention, detection, monitoring, management, and regulation.

A. Application of Economic Concepts or Decision-Support Models to Invasive Species Decision Problems

USDA decision makers allocate scarce resources for research, prevention, detection and monitoring, and management programs across a wide variety of invasive species, and choose specific actions for specific organisms. For each of numerous invasive species problems, decision makers consider a range of alternative actions. Each action has an associated cost and set of economic implications for multiple stakeholders. In addition, some decisions must be made rapidly, as when responding to a new detection or new information on a species or its pathways. As a result, decision making could benefit greatly from flexible, transparent, readily available decision support tools.

Environmental conditions, human activity, and biological characteristics interact to provide a variety of pathways by which invasive species can disperse over space and time and influence potential damage. Concepts and tools that address the economic aspects of space, time, risk, uncertainty, and/or irreversible effects that pertain to the entry, spread, and damage of invasive species, may contribute to informed resource allocation and management decisions.

To address these needs, ERS seeks to fund studies that apply economic concepts or develop and apply practical, economic decision support models to existing, well-defined government invasive species decision problems, such as USDA or USDA/State problems. The approach, framework, or model should be developed so that decision-makers or their staff can use them or understand the results. ERS also seeks proposals to develop transparent, portable decision tools, based on the sound application of economic concepts, which can be easily used on-site by staff of invasive species border inspection, surveillance, or management programs.

Among the most important decision problems is resource allocation among prevention, surveillance, or management options for specific pests or diseases. Important examples include:

1. Choices of pests, response to pests, and locations for response. How should pests or options be prioritized? What options would be cost-effective when applied to what pests in what situations? What decision rules could be used to initiate, alter, or terminate a response?
2. Development or identification of effective pest strategies or programs. What practices or options could be included into efficient strategies? How can exclusion, surveillance, and management options be integrated?
3. Resource allocation among pests, specific options, and strategies. How much funding is justified for a pest program? When should a pest program be initiated or terminated?

B. Evaluation Methods for Invasive Species Strategies

Evaluation of the costs and benefits of invasive species management and research programs confronts many methodological challenges simultaneously, including uncertainty, sparse data, and valuation of natural resource amenities. USDA decision makers are called upon to evaluate alternative regulations and research investments under tight deadlines. The standard

approach to program evaluation and priority-setting makes use of economic surplus analysis (ESA), supply and demand evaluation, and welfare comparisons. ERS encourages applied efforts that can reduce the limitations and increase the utility under time constraints of using such analytical methods to evaluate strategies for exclusion, surveillance, and/or management, or returns from research to develop such strategies, with the purpose of demonstrating how methodological improvements can enhance invasive species program effectiveness and aid resource allocation decisions. Templates or demonstrations of methodological improvements may be applied to programs implemented under Federal or State exotic plant pest or foreign animal disease programs or public or private large-area programs.

III. International Dimensions of Invasive Species Management

Significant increases in international trade, travel, transport, and tourism over the past decades have created the potential for increased transmission of invasive species (IS). Countries use different approaches to mitigate transboundary IS risks arising from these activities. Strategies include extra-territorial efforts to control pests and diseases, the regulation of commercial imports by source and product, and border inspections. A number of international organizations undertake activities to complement or supplement these national efforts. This network includes organizations, such as the Food and Agriculture Organization (FAO) and international standards organizations, which provide, coordinate, and/or finance regional or multilateral efforts to control invasive species. This international network also includes trade agreements that govern the use of national sanitary and phytosanitary (SPS) regulations that affect trade. The WTO, NAFTA, and other trade agreements have set out a number of different options for regulating trade-related risks arising from invasive species, with different sizes and distributions of costs and benefits across importing and exporting countries. These invasive species policy choices made by national and international authorities affect, and are affected by, production and investment decisions made by firms and private individuals related to the international movement of food and agriculture products.

ERS is interested in the development of analytical platforms for economic evaluations of trade-related IS risks, as well as firm, national, and international strategies for controlling these risks. In particular, we seek research that enables the full economic evaluation of the direct and indirect effects of IS management options, including the costs of reduced trade and the benefits of IS prevention or mitigation. We encourage research that can evaluate such effects in global, as well as national markets. How might policy choices in other countries affect the imports, exports, or optimal IS policies in the home country? In addition to analyses of trade-related IS risks and regulation, we would especially welcome research addressing the following issues.

A. Economic Analysis of International Public Goods Related to Invasive Species Management

The WTO, NAFTA and other trade agreements set out rules that govern the interface of trade and regulation, as well as establish the framework for international coordination of policies affecting trade. These trade agreements envision the use of several different types of international public goods to foster welfare-enhancing trade. We are interested in economic analyses that measure the costs of international public goods such as pest and disease eradication or joint IS surveillance efforts, as well as their benefits, which could include increased trade as well as more cost-efficient domestic production. The size and distribution of these costs and benefits may be affected by both natural and policy environments. For example, transborder animal disease control could increase social welfare more than autonomous national policies where natural barriers to diseases and pests are low; when animals (including wildlife) move freely across borders; or when regional trade agreements

have created the potential for the deep integration of markets between trading partners with contiguous borders. Are there products and hazards for which supra-national IS measures are more economically rational than national-level controls? ERS also seeks research that examines characteristics of international public goods related to IS management—including non-rivalry of benefits, the possibility of being excluded from benefits, and the technology for aggregating public supply—that could inform decisions about the policies required for their provision and financing. Economic analyses that explicitly account for the level of development of trading partners are encouraged.

The United States' trade agreements also urge adoption of international standards. The character of international standards as an international public good leads to an expectation of underinvestment in their creation. This expectation may lead not only to too few international standards in instances where they are appropriate, but also to too many outmoded standards, which may account in part for the low adoption rate for those standards that do exist. We would therefore be interested in funding research that could provide guidance for the creation of standards by inter-governmental organizations such as the International Plant Protection Convention or the Organization of International Epizootics that benefit U.S. producers and consumers as well as the global trading system. Research that could help identify how to change current incentives or institutions to increase the regional or global supply of welfare-increasing standards is also of interest

B. Economic Evaluation of the Public Enforcement of Trade-Related Invasive Species Regulation

Public animal and plant health officials establish sanitary and phytosanitary regulations for commercial imports of agricultural products to mitigate invasive species risks. SPS regulations establish different protocols for imports that vary by source and product type. These protocols set out required process and product standards that exporters must meet in order to gain access to the importing country's market. Compliance with these requirements is enforced by public officials by different means, including pre-clearance programs, border inspections, fines, and other sanctions. ERS seeks applied research that draws on the theory and methods of the economics of deterrence, as well as available data on trade flows and interceptions by port of entry, country of origin, and pest species, to answer questions that will help USDA's program agencies to efficiently allocate enforcement resources to mitigate IS risks. This work should have conceptual, theoretical, and applied components, and address questions related to the effect of the type and structure of sanctions on enforcement costs; the most efficient point in the supply chain to enforce compliance; and the efficient mix of product and process standards to mitigate IS risks, taking public enforcement costs into account. How should sanctions be structured so as to discourage an exporter from choosing a more harmful rather than a less harmful deviation from the required protocol? Does the nature of the risk from invasive species, which can grow and reproduce, as well as actively or passively disperse, have implications for the optimal time and place for public enforcement of import protocols?

C. Trade-related Invasive Species Risks, Regulations, and Responses: Firm-Level Analyses

Rules and procedures governing the importation of plant and animal products can differ considerably depending not only on what is being imported but also by whom -- personal versus commercial shipments, owner versus transporter shipments, or broker versus non-broker shipments. Rules may also vary by the port of entry and whether the shipment is regarded as a routine or first-time entry. ERS seeks research that would improve understanding of how alternative rules and procedures for importing similar or identical products by different types

of importers affects the costs and benefits of different exclusion and control strategies to reduce invasive species risks related to trade.

While invasive species IS interceptions or outbreaks may be rare events, a few incidents in recent years have substantially reduced the revenues of the firms associated with these problems. ERS is interested in research that links IS risks and changes in IS regulation to production and investment decisions by firms. In particular, we are interested in research that evaluates the effects of uncertainty on these business decisions. Are business decision-makers more concerned with the probability of an event occurring than the size of the event? What are the determinants of firms' reactions to events of different size, scope, and severity at different points along the supply chain? We are also soliciting research that identifies the determinants of firms' reactions to the timing, extent, or duration of IS measures to aid in the design of emergency and routine responses.

Eligibility Requirements, Award Types, and Indirect and Other Costs

The Program of Research on the Economics of Invasive Species Management (PREISM) may award competitive grants or cooperative agreements under this announcement. **Applicants need not specify the type of award in their proposal. PREISM reserves the right to determine the type of award.** The type of award made for a selected proposal will be governed by the nature and degree of involvement desired by PREISM in the project and the type of institution requesting funding (see “Authority,” page 1). In accordance with Federal statutes, the amount of indirect cost ERS will pay is governed by the type of award and the type of institution receiving the award.

Proposals may be submitted by any State agricultural experiment station, college, university, other research institution or organization, Federal, State, or county agencies, private organization, corporation, or individual. Proposals submitted by non-United States organizations will not be considered.

The research proposed must be specifically designed for the three Priority Research Areas described previously. Proposals may include requests for conferences that bring together members of the interested research community to identify research needs, update information, or advance an area of research recognized as an integral part of the research effort.

Types of Awards

- **Competitive Grants:** Competitive grants will be supported when the research topic does not require substantial involvement between ERS staff and the recipient during the performance of the award.
- **Cooperative Agreements:** Cooperative agreements will be supported when the research topic requires more substantial involvement between ERS and the investigator(s). There are two types of cooperative agreements: cooperative research agreements and assistance-type cooperative agreements. In a cooperative research agreement, ERS staff and extramural researchers are close collaborators and contributors to support the research; in an assistance-type cooperative agreement the extramural researchers are responsible for conducting the greater part of the work on the project. Cooperative research agreements require both parties to contribute to the funding of the project; assistance-type cooperative agreements do not have this joint funding requirement.

Indirect and Other Costs

Federal statutes dictate the amount of indirect costs that ERS pays by type of award and institution. In cooperative research agreements, ERS pays: no indirect costs to State cooperative institutions (i.e., land-grant universities and their constituent schools and departments); the negotiated indirect cost rate not to exceed 10 percent of total direct costs to nonprofit institutions other than State cooperative institutions; and the negotiated indirect cost rate not to exceed the audited rate of any federally recognized audit agency to other institutions. In competitive grants and assistance-type cooperative agreements, ERS pays the negotiated indirect cost rate not to exceed the audited rate of any federally recognized audit agency to State cooperative institutions and institutions other than State cooperative institutions and nonprofit institutions; and the negotiated indirect cost rate (no statutory limitation) to nonprofit institutions other than State cooperative institutions. For reimbursement of indirect costs, the applicant must include a copy of its indirect cost rate schedule with the application. Tuition shall be treated as an allowable cost, subject to negotiation, where reimbursement of such costs are not prohibited by law.

Peer Review of Applications

All proposals received will be acknowledged. If you do not receive an acknowledgment within 30 days of the submission deadline, please contact the PREISM office at (202) 694-5112 or e-mail: PREISM@ers.usda.gov.

Prior to technical examination, a preliminary review will be made for responsiveness to the three Priority Research Areas (for example, relationship of the proposal to one of the three research areas and proposed requirements). Proposals that do not fall within the guidelines as stated in this document will be eliminated from program competition, and the applicant will be notified in writing.

Peer review panels will be convened to review proposals in each research area. All applicants will be notified in writing by October 31, 2005, as to whether their proposal has been accepted for an award by PREISM.

Peer review panel members will be selected based upon their training and experience in relevant research or technical fields, taking into account the following factors:

- The level of formal social science or technical education and other relevant experience of the individual as well as the extent to which an individual is engaged in relevant research and other relevant activities;
- The need to include as peer reviewers experts from various areas of specialization within relevant social science or technical fields;
- The need to include as peer reviewers experts from a variety of organizational types (for example, universities, industry, private consultant(s), and geographic locations); and
- The need to include as peer reviewers individuals with relevant program knowledge and experience.

During the peer evaluation process, extreme care will be taken to prevent any actual or potential conflicts of interest that may have an impact on review or evaluation. Names of submitting institutions and individuals, as well as proposal content and peer evaluations, will be kept confidential.

Evaluation Factors and Criteria

The proposal evaluation process includes both internal staff review and evaluation by peer review panels with members drawn from universities, industry, private consultants, and government officials. Peer review panels will be selected and structured to provide expertise and objective judgment in the evaluation of the proposals.

The peer review panel will use the following criteria and weights to evaluate proposals (100 points total):

Research Merit of the Proposal (weight: 35 points)

This criterion is used to assess the conceptual adequacy of the hypothesis or research question or information needed, the clarity and delineation of objectives, the adequacy of the description of the undertaking, and how the anticipated results will advance policy knowledge and the development and implementation of programs. Background information should be brief for proposals that address one of the topics described on pages 2-8; a more extensive justification is needed for a proposal with a nonlisted topic.

Overall Approach (weight: 30 points)

This criterion relates to the probability of success of project; time allocated for systematic attainment of objectives; analytic approach; and innovative and original research design, appropriateness of data, and suitability and feasibility of methodology.

Workplan, Budget, and Cost-Effectiveness (weight: 20 points)

This criterion relates to the extent to which the total budget adequately supports the project and is cost-effective. Reviewers will evaluate if the workplan is reasonable and sufficient to ensure timely implementation and completion of the study. The workplan should also provide evidence of the adequacy of available or attainable support personnel, facilities, and instrumentation. When achievement of the workplan requires collaboration, evidence is needed of the adequacy of support from and commitment to cooperation from any collaborative organization. The budget must be consistent with the scope of the work. Realistic budget projections will be rewarded.

Key Personnel (weight: 15 points)

This criterion relates to the adequacy of the number and qualifications of the key persons who will carry out the project.

How To Obtain Application Materials

PREISM is using the Internet for primary distribution of information and application materials for its Competitive Grants and Cooperative Agreements Program. Please note that this document, with a downloadable budget form, is available on the PREISM website at <http://www.ers.usda.gov/briefing/InvasiveSpecies/funding>. Photocopies of materials and the budget form (ARS-455) are acceptable. Paper copies may also be requested from:

Economic Research Service, USDA
PREISM Business Office
1800 M Street, NW, Room S3111
Washington, DC 20036-5831
Telephone: (202) 694-5112
Fax: (202) 694-5641
E-mail: PREISM@ers.usda.gov

Application Process

Overview

These guidelines are provided to assist you in preparing a proposal to the Competitive Grants and Cooperative Agreements Program of the Program of Research on the Economics of Invasive Species Management. Please read these guidelines carefully before preparing your submission.

A checklist is provided at the beginning of this document to help you provide the necessary information for completing a proposal. A budget form ARS-455 is required for the proposal, and it may be obtained using the Internet or by requesting a paper copy; contact information is provided on page 12.

Submission Requirements

The purpose of a grant or cooperative agreement proposal is to persuade PREISM and members of the invasive species research community who provide advice to PREISM that the proposed project is important, methodologically sound, and worthy of support under the criteria listed on page 11. Therefore, the proposal must be submitted in response to one of the three Priority Research Areas (page 2). The application should be self-contained, should clearly present the merits of the proposed project, and should be written with care and thoroughness. It is important that all essential information for comprehensive evaluation be included. Omissions often result in processing delays and may jeopardize funding opportunities.

In preparing the proposal, applicants are urged to ensure that the name of the Principal Investigator and, where applicable, the name of the submitting institution are included on the Application for Funding Cover Page and **at the top of each page**. This will permit easy identification in the event that the application becomes disassembled during the review process.

Format and Contents of Proposals

Application for Funding Cover Page

Each copy of the proposal must contain an Application for Funding Cover Page. This is designed by the applicant but must be the first page of the application. At least one copy of this information must contain pen-and-ink signatures as outlined below. In completing this cover page include the following information:

- *Title of Proposal.* The title of the proposal must be brief (80-character maximum), yet represent the major thrust of the project. Because this title will be used to provide information to those who may not be familiar with the proposed project, highly technical words or phraseology should be avoided where possible. In addition, phrases such as “investigation of” or “research on” should not be used.
- *Program to Which You Are Applying.* “PREISM”
- *Priority Research Area.* Choose the Priority Research Area that is most appropriate to the research being proposed (i.e., stakeholders and incentives for efficient invasive species program management, practical decision tools for invasive species management, or trade and invasive species). It is important that only one research area be selected. When the appropriateness of the chosen research area may be in question, the final program area assignment will be made by the PREISM staff. The Principal Investigator will be informed of any changes in assigned research area.

- *Principal Investigator/Project Director.* List the name of the proposing Principal Investigator; there can be only one Principal Investigator or Project Director, who must sign the Application for Funding Cover Page. If the proposal has one or more co-investigator(s), all must be listed (signatures of co-investigators are not required) on the Application for Funding Cover Page. Co-investigators should be limited to those required for major research collaboration; minor collaborators or consultants are more appropriately designated as collaborators (see page 16). Only the Principal Investigator listed will receive direct correspondence from PREISM.
- *Type of Institution.* Identify the institution type of the Principal Investigator (awards can be to only one institution or individual); no other designation is accepted: Hispanic-Serving Institution, Land-Grant 1994 (Tribal Colleges and Universities), Land-Grant University 1862, Land-Grant University 1890 or Tuskegee University, Public University or College (Non-Land Grant), Private University or College, Cooperative Extension Service, State Agricultural Experiment Station, USDA/REE Laboratory, Other Federal Research Laboratory, State or Local Government, Minority-Owned Business, Female-Owned Business, Small Business, Private Profit-Making, Private Nonprofit, Individual, Other (specify). Contact your institution's business office if you have any question regarding the proper identification of type of institution.
- *Telephone Numbers.* Please list the telephone and fax numbers and the e-mail addresses (if available) of the Principal Investigator and co-investigators. In addition, please include a telephone number where a message can be left, if different from above.
- *Signatures.* Sign and date the Application for Funding Cover Page. All proposals must be signed by the proposing Principal Investigator and, for those proposals being submitted through institutions or organizations, endorsed by the authorized organizational representative who possesses the necessary authority to commit the applicant's time and other relevant resources. The Principal Investigator, who signed the Application for Funding Cover Page, will be listed on the grant or cooperative agreement award document in the event that an award is made. Proposals that do not contain the signature of the authorized organizational representative cannot be considered for support.

Table of Contents

A Table of Contents, itself unpaginated, should be placed immediately after the Application for Funding Cover Page. This table should direct the reader to the pages for all sections of the proposal, beginning with the Project Description on page 1.

Project Summary

The proposal must contain a Project Summary, and must be assembled as the third page of the proposal (immediately after the Table of Contents) and should not be numbered. The names and institutions of the Principal Investigator and all co-investigators should be listed on the summary page (if space is insufficient, please use a separate sheet immediately following the Project Summary in the proposal). The Project Summary is limited to 250 words. The summary is not intended for the general reader; consequently, it may contain technical language comprehensible by persons in disciplines relating to the food and agricultural sciences. The project summary should be a self-contained, specific description of the activity to be undertaken and should focus on:

- Overall project goal(s) and supporting objectives; and
- Plans to accomplish project goal(s).

The importance of a concise, informative project summary cannot be overemphasized.

Project Description

The written text may not exceed 15 pages (whether single- or double-spaced) of written text and may not exceed a total of 20 pages including figures and tables. The proposal should be assembled so that the Project Description immediately follows the Project Summary. To clarify page limitation requirements, page numbering for the Project Description should start with 1, and should be placed on the bottom of the page. The 15-page limitation does not include figures, tables, or attachments such as a survey instrument (if relevant). All proposals are to be submitted on standard 8½" x 11" paper. In addition, margins must be at least 1 inch, type size must be 12 point (equivalent to this size for some printers is 10 pitch or 10 characters per inch, which is also acceptable), there should be no more than six (6) lines per inch, and there should be no page reductions. The project description must contain the following components:

- *Introduction.* A clear statement of the long-term goal(s) and supporting objectives or research questions of the proposed project should be included. The most significant published work in the field under consideration, including the work of key project personnel on the current application, should be reviewed. The current status of research in this field should also be described.
- *Rationale and Significance.* Concisely present the rationale behind the proposed research. The objectives' specific relationship to the potential long-term improvement in the efficiency of the USDA's invasive species programs should be shown clearly. These purposes are described under Priority Research Areas on page 2. Any novel ideas or contributions that the proposed project offers should also be discussed in this section.
- *Research Methods.* The hypotheses or questions being asked and the methodology being applied to the proposed project should be stated explicitly. Specifically, this section must include:
 - A description of the research proposed in the sequence in which it is to be performed;
 - Techniques to be used in carrying out the proposed project, including the feasibility of the techniques;
 - Explanation of data collection methods, including interviewer training, sample design and selection, and measures for obtaining adequate response rates (for proposed projects that plan to collect survey data);
 - Results expected;
 - Means by which data will be analyzed or interpreted;
 - Discussion of relevant variables and of model specification issues (for proposed projects that plan to use multivariate analysis);
 - Possible application of results;
 - Pitfalls that may be encountered;
 - Limitations to proposed procedures; and
 - A tentative schedule or workplan for conducting major steps of study.

In describing the research plan, the applicant must explain fully any materials, procedures, situations, or activities that may be hazardous to personnel (whether or not they are directly related to a particular phase of the proposed project), along with an outline of precautions to be taken to avoid or mitigate the effects of such hazards.

Note: The sections detailed below are not included in the page limitations for the Project Description section.

Citations to Project Description

All references cited should be complete, including titles and all co-authors, and should conform to an accepted journal format.

Collaborative Arrangements

If the nature of the proposed project requires collaboration or subcontractual arrangements with other research scientists, corporations, organizations, agencies, or entities, the applicant must identify the collaborator(s) and provide a full explanation of the nature of the collaboration. Evidence (that is, letters of intent) should be provided to assure peer reviewers that the collaborators involved have agreed to render this service.

When a project requests funds for multiple institutions, a lead institution must be designated. Only one proposal may be submitted for the project and only from the lead institution. Other institutions may be designated as subcontractors. Proposals with Application for Funding Cover Pages from more than one institution are not permitted and will be returned without review. Identical proposals submitted by different investigators from different institutions are also not permitted and will be returned without review.

Vitae and Publications List(s)

To assist peer reviewers in assessing the competence and experience of the proposed project staff, all personnel who will be involved in the proposed project must be identified clearly. For the Principal Investigator and each co-investigator listed on the Application for Funding Cover Page, for all collaborators and other senior personnel who expect to work on the project in a significant fashion (for instance, expectation of co-authorships on ensuing publications) whether or not funds are sought for their support, and for all subcontractors, the following should be included:

- *Curriculum Vitae (CV)*. The curriculum vitae should be limited to a presentation of academic and research credentials, such as educational, employment, and professional history, honors, and awards. The vitae shall be no more than two pages each in length, excluding publications listings; and
- *Publications List(s)*. A chronological list of all publications in refereed journals during the past 5 years, including those in press, must be provided for each professional project member for whom a curriculum vitae is provided. Also list only those non-refereed technical publications relevant to the proposed project. All authors should be listed in the same order as they appear on each paper cited, along with the title and complete references as these usually appear in journals.

Budget (Form ARS-455)

A summary budget is required detailing requested support for the overall project period, which is not to exceed 3 years. Funding levels accepted are between \$50,000 and \$250,000, inclusive of indirect cost where applicable, for the duration of the project.

Funds may be requested under any of the budget categories listed, provided that the item or service requested is identified as necessary for successful conduct of the proposed project, allowable under applicable Federal cost principles, and not prohibited under any applicable Federal statute or regulation.

Budget items include:

- Salaries and wages
- Nonexpendable equipment
- Materials and supplies
- Travel
- Publication costs/page charges
- Computer costs
- Other direct costs
- Indirect costs
- Cost sharing (ignore this category, may be requested later for cooperative agreements)

Salaries of faculty members and other personnel who will be working on the project may be requested in proportion to the effort they will devote to the project.

See page 12 to obtain a paper copy or an electronic copy.

Indirect Cost Rate Schedule

For reimbursement of indirect costs, the applicant must include with the application a copy of its indirect cost rate schedule that reports the applicant's federally negotiated audited rate.

Current and Pending Support

The information in this section of the proposal provides reviewers with an opportunity to evaluate the contribution the proposed work will make to the investigators' overall research program.

The proposal must list any other current public or private research support (including in-house support) to the Principal Investigator or co-investigators listed on the Application for Funding Cover Page, whether or not salary support for the person(s) involved is included in the budget. PREISM must be informed of changes in pending grant support that arise after the proposal has been submitted. Nonflexible funds—including Principal Investigator and support staff salaries, office space, and other indirect costs—may be excluded when these funds are received through a noncompetitive process. Analogous information must be provided for any pending proposals, including this proposal, that are now being considered by, or that will be submitted in the near future to, other possible sponsors, including other USDA programs or agencies. Note that this proposal must be listed as Pending. In addition to completing the information, Investigators also should include a brief statement of research objectives or project summaries for all projects listed in Current and Pending Support. Concurrent submission of identical or similar proposals to other possible sponsors will not prejudice proposal review or evaluation by PREISM or experts engaged by PREISM for this purpose. However, a proposal that duplicates or overlaps substantially with a proposal already reviewed and funded (or that will be funded) by PREISM will not be funded under this program.

Please include the following information under the heading “Current and Pending Support.”

- Record information for active and pending projects in separate sections by name, supporting agency, total funding amount, effective and expiration dates, percentage of time committed, and title of project.
- All current research to which the Principal Investigator, co-investigators, and other senior personnel have committed a portion of their time must be listed, whether or not salary for the person involved is included in the budgets of the various projects.

Additions to Project Description

Each project description is expected to be complete without the need to refer to additional materials. However, additions to the Project Description (appendices) are allowed if they are directly germane to the proposed research. These may include reprints (papers that have been published in peer-reviewed journals) or preprints (manuscripts in press for a peer-reviewed journal must be accompanied by letter of acceptance from the publishing journal).

Manuscripts sent in support of the proposal should be single-spaced and printed on both sides of the page. Each manuscript must be identified with the name of the submitting organization, the name of the Principal Investigator, and the title of the proposal, and be securely attached to each copy of the proposal. Staff of PREISM will not collate applicant proposals or proposal addenda.

Information may not be appended to a proposal to circumvent page limitations prescribed for the project description. Extraneous materials will not be used during the review process.

What/Where To Submit

An original and 12 copies of the application are required. Due to the volume of proposals that are expected and the difficulty in identifying proposals submitted in several packages, all copies of each proposal must be mailed in a single package. In addition, please ensure that each copy of the proposal is stapled securely in the upper left-hand corner.

Every effort should be made to ensure that the proposal contains all pertinent information when originally submitted. Prior to mailing, it is urged that the proposal be compared with the checklist on the inside front cover of this announcement.

To ensure prompt receipt of submitted proposals, use First Class or Express mail, or a courier service. To be considered for funding this fiscal year, proposals (an original and 12 copies) must be transmitted by April 29, 2005 (as indicated by postmark or date on courier bill of lading). Late proposals will not be considered. Electronic or fax submissions will not be accepted.

Address for Submitting Proposals:

Economic Research Service, USDA
PREISM Business Office
1800 M Street, NW, Room S3111
Washington, DC 20036-5831

Proposal Disposition

PREISM will select those proposals that will be offered an award based upon peer review, research priorities, and the availability of funding.

PREISM reserves the right to negotiate with the Principal Investigator or project director and/or with the submitting organization or institution regarding project revisions (for example, reductions in the scope of work), funding level, or period or method of support prior to recommending any project for funding.

A proposal may be withdrawn by the Principal Investigator at any time before a final funding decision is made regarding the proposal; however, withdrawn proposals normally will not be returned. One copy of each proposal that is not selected for funding (including those that are withdrawn) will be retained by PREISM for a period of one (1) year. The remaining copies will be destroyed.

Duration of Awards

The total period for which a grant or cooperative agreement is awarded may not exceed 3 years.

Management Information

Once a grant or cooperative agreement has been reviewed and recommended for funding, specific management and organizational information relating to the applicant shall be requested on a one-time basis prior to the award. Copies of forms needed in fulfilling the requirements will be provided by the PREISM office.

Notice of Award

A competitive grant or cooperative agreement award document, containing the budget, terms and conditions of the award, and other necessary information, will be prepared and forwarded to each grantee or cooperator, along with a Notice of Competitive Grant or Cooperative Agreement Award, by the Administrative and Financial Management, ARS, USDA.

Financial Obligations

For any competitive grant or cooperative agreement awarded, the maximum financial obligation of ERS shall be the amount of funds authorized for the award. This amount will be stated on the award instrument and on the approved budget. However, in the event an erroneous amount is stated on the grant award instrument, the approved budget, or any supporting document, ERS reserves the unilateral right to make the correction and to make an appropriate adjustment in the amount of the award to align with the authorized amount.

Nothing in these guidelines or any program announcement shall obligate ERS, the Department, or the United States to take favorable action on any application received in response to any announcement, or to support any project at a particular level. Further, neither the approval of any application nor the award of any project grant or cooperative agreement shall commit or obligate the United States in any way to make any renewal, supplemental, continuation, or other award with respect to any approved application or portion of an approved application.

Post-Award Administration

Awardees will be required to ensure that all funds are expended in accordance with the terms and conditions of grant or cooperative agreement award, Departmental regulations, and the applicable Federal cost principles in effect on the date of the award. Responsibility for the use and expenditure of grant or cooperative agreement funds may not be transferred or delegated in whole or in part to another party (even if a grantee or cooperator enters into a contractual relationship with that party), unless the grant or cooperative agreement itself is transferred in whole or in part to another party by ERS.

Authorization to make changes in approved project plans, budget, period of support, etc., will be governed largely by the terms and conditions of the competitive grant award or cooperative agreement. Among other things, these terms and conditions will set forth the kinds of post-award changes that may be made by the awardee and the kinds of changes that are reserved to the PREISM Office. It is urged that all key project personnel and authorized organizational representatives read them carefully.

Release of Information

ERS receives grant and cooperative agreement proposals in confidence and will protect the confidentiality of their contents to the extent permitted by law. When a proposal results in a grant or cooperative agreement, however, it becomes part of the public record and is available to the public upon written request. Copies of proposals (including excerpts from proposals) that are not funded will not be released. Information regarding funded projects will be made available to the extent permitted under the Freedom of Information Act, the Privacy Act, and implementing USDA regulations.

Requests to obtain authorized information (and fee schedule relating to the handling of this information) or to obtain information regarding procedures related to release of grantor cooperative agreement information should be directed to the Freedom of Information Act (FOIA) Coordinator, ARS Information Staff, 5601 Sunnyside Ave., Bldg. 1, Rm. 2248, Mail Stop 5128, Beltsville, MD 20705-5128; telephone (301) 504-1655 or (301) 504-1640.